**REMARKS:**

CLAIM AMENDMENTS:

Claims 15 to 17 relate to the different embodiments of Pockels cell driver circuits which are disclosed in the specification and the original claims 1 to 13. In particular, original claims 1 to 3 expressed that the Pockels cell driver circuit according to the invention is constructed by starting from the prior art conventional driver circuit as shown in Fig. 1a wherein one or both of the recharging resistors R1 and R2 are wired in parallel with a switch or one or both of the recharging resistors R1 and R2 are replaced by a switch.

New claim 15 relates to a driver circuit in which the first circuit node is connected with a first potential (mass potential) via a first switch and the second circuit node is connected with the first potential (mass potential) via a second switch. Both circuit nodes are connected with a second potential (HV, high voltage) via a recharging resistor, respectively, and one or both of the circuit nodes are connected with the second potential (HV) via a further switch, respectively. The embodiment as shown in Fig. 3a shows that the second circuit node (SK2) is connected with the second potential (HV) via the further switch S2B.

New claim 16 describes an embodiment in which one of the two circuit nodes are connected with the high voltage potential via a recharging resistor and the other one of the circuit nodes is connected with the high voltage potential via a switch. Such an embodiment is clearly and unambiguously disclosed in original claims 1 to 3 though it is not explicitly shown in one of the figures.

New claim 17 relates to an embodiment in which both circuit nodes are connected with the high voltage potential via a switch, respectively. Such an embodiment is depicted in Fig. 4 of the present application.

New claims 18 and 19 correspond to original claims 7 and 8.

New claim 20 corresponds to original claim 9.

New claim 21 corresponds to original claim 10.

New claims 22 to 25 correspond to original claims 11 and 12.

New claim 26 corresponds to original claim 13.

New claim 27 corresponds to original claim 14.

REJECTIONS UNDER 35 U.S.C. § 102, § 103:

In the Office Action, on pages 4 - 10, original claims 1 - 14 were rejected under 35 U.S.C. § 102, § 103 in view of the applicants cited prior art, Stingl et al. WO 02/28305 (herein after "Stingl"), each either alone or in view of Zhang et al. US 2001/0038074 or Opower US 5,361,275. This rejection is respectfully traversed and reconsideration is respectfully requested.

The Pockels cell driver circuits as now claimed in new independent claims 15 to 17 have to be compared with the Pockels cell driver circuit as depicted in Fig. 5 of Stingl designated with reference number 17. It appears that Pockels cell driver circuit 17 of Fig. 5 of Stingl corresponds to the prior art Pockels cell driving circuit as depicted in Fig. 1a of the present application.

New claim 15 contains the feature according to which one or both circuit nodes are connected with the second potential (HV) with a further switch, respectively. It is respectfully submitted that the skilled person would not consider about connecting one or both of the circuit nodes of driving circuit 17 of Fig. 5 of Stingl with the high voltage potential via a further switch.

New claim 16 contains the feature according to which one of the circuit nodes is connected with a second potential (HV) via a recharging resistor and the other one of the circuit nodes is connected with the second potential (HV) via a further switch. It is respectfully submitted herewith that the skilled person would not consider about connecting one of the circuit nodes of driving circuit 17 of Fig. 5 of Stingl with the high voltage potential via a switch instead of a recharging resistor.

New claim 17 contains the feature according to which both circuit nodes are connected with the second potential (HV) via a switch, respectively. It is respectfully submitted herewith that the skilled person would not consider about connecting both circuit nodes of driving circuit 17 of Fig. 5 of Stingl with the high voltage potential via a switch, respectively, i.e. replacing the two recharging resistors 54 and 55 by respective switches.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

Respectfully submitted,

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change their states. According to Fig. 5b (operational modus B) the control signals ON and OFF are routed alternatingly, once to the switch pair S1A/S1B, the other time to the switch pair S2A/S2B.

As can be easily seen from Fig. 5a,b, the problem of residual voltage (during the recharging phase) across the Pockels cell which occurs for drivers of Pockels cells built according to Fig. 1 is completely avoided for drivers built according to Fig. 4.

Both operational modi A or B give twice the pulse repetition rate on the Pockels cell at only half the repetition rate of the switch pairs S1A/S1B and S2A/S2B. Normally no difference will be noticeable between operational modus A and B as the way the Pockels cell influences passing light does not depend on the polarity of the voltage applied. The timing diagrams always show the opening of a switch exactly synchronous to the closing of its counterpart switch, e.g.S1A and S1B, however it is also possible to open S1B a few nanoseconds before closing S1A.

Using devices according to the invention for controlling the voltage applied to Pockels cells within laser systems, new configurations of ultrashort pulse lasers are possible, which, at present state-of-the-art would not work or would not function properly, e.g. because their function would be impaired by undue background radiation.

A Pockels cell controlled by a circuit 2a according to the invention can, as shown in Fig. 6, select laser pulses between a laser pulse source 1 and a device of high optical amplification which will transfer its energy with high efficiency to the selected laser pulses. For instance, using a laser pulse source with a repetition rate of 60 MHz, it is possible to use a Pockels cell controlled with a driver circuit 2a according to the invention in order to select pulses with a repetition rate of 100-200 kHz at a contrast of 3000:1. The average power of the selected pulses will thus be a factor ten higher than the residual background radiation. The amplification of the pulses is improved a factor of 100 as compared with devices that use Pockels cells controlled by state-of-the-art circuits. There is a polarisation dependent element 3 between the Pockels cell 2 and the optical amplifier 4, which is oriented such that it will transmit light polarized in one direction while reflecting light of the other polarisation.

The embodiment of the invention shown in Fig. 6 arranges the Pockels cell externally to the laser resonator. A Pockels cell controlled with a circuit according to the invention can, by virtue of the high optical contrast and fast switching times, be used directly for laser pulse selection within the resonator as a Q-switch. In combination with a polarizing element, changing the high voltage applied to the Pockels

**IN THE DRAWINGS:**

Please replace the existing drawing pages containing Figs. 1a, b and 2a, b with the drawings as enclosed herewith.

In the new drawing pages the new Figs. 1a, b and 2a, b have been designated as prior art.